General

Guideline Title

Management of stable ischemic heart disease: summary of a clinical practice guideline from the American College of Physicians/American College of Cardiology Foundation/American Heart Association/American Association for Thoracic Surgery/Preventive Cardiovascular Nurses Association/Society of Thoracic Surgeons.

Bibliographic Source(s)

Qaseem A, Fihn SD, Dallas P, Williams S, Owens DK, Shekelle P, Clinical Guidelines Committee of the American College of Physicians. Management of stable ischemic heart disease: summary of a clinical practice guideline from the American College of Physicians/American College of Cardiology Foundation/American Heart Association/American Association for Thoracic Surgery [trunc]. Ann Intern Med. 2012 Nov 20;157(10):735-743. [333 references] PubMed

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

Definitions for the strength of evidence (high, moderate, low, or insufficient evidence to determine net benefits or risks) and strength of recommendations (strong, weak) are defined at the end of the "Major Recommendations" field.

Patient Education

Recommendation 1: The organizations recommend that patients with stable ischemic heart disease (IHD) should have an individualized education plan to optimize care and promote wellness, including:

A. Education on the importance of medication adherence for managing symptoms and reducing disease progression (Grade: strong recommendation; low-quality evidence).
B. An explanation of medication management and cardiovascular risk reduction strategies in a manner that respects the patient's level of understanding, reading comprehension, and ethnicity (Grade: strong recommendation; moderate-quality evidence).
C. A comprehensive review of all therapeutic options (Grade: strong recommendation; moderate-quality evidence).
D. A description of appropriate levels of exercise with encouragement to maintain recommended levels of daily physical activity (Grade: strong recommendation; low-quality evidence).
E. Introduction to self-monitoring skills (Grade: strong recommendation; low-quality evidence).
F. Information on how to recognize worsening cardiovascular symptoms and take appropriate action (Grade: strong recommendation, low-

quality evidence).

Recommendation 2: The organizations recommend that patients with stable IHD should be educated regarding the following lifestyle elements that may influence prognosis (Grade: strong recommendation; low-quality evidence):

A. Weight control and maintenance of a body mass index of 18.5 to 24.9 kg/m^2 and waist circumference less than 40 inches for men and less than 35 inches for women (less for certain racial groups).
B. Lipid management.
C. Blood pressure control.
D. Smoking cessation and avoidance of exposure to second-hand smoke.
E. Individualized medical, nutrition, and lifestyle education for patients with diabetes mellitus to supplement diabetes treatment goals and education.

Risk Factor Modification

Lipid Management

Recommendation 3: The organizations recommend lifestyle modifications for lipid management in all patients with stable IHD, including daily physical activity and weight management (Grade: strong recommendation; moderate-quality evidence).

Recommendation 4: The organizations recommend dietary therapy for all patients, which should include reduced intake of saturated fats (to <7% of total calories), trans-fatty acids (to <1% of total calories), and cholesterol (to <200 mg per day) (Grade: strong recommendation; moderate-quality evidence).

Recommendation 5: The organizations recommend that in addition to therapeutic lifestyle changes, a moderate or high dose of a statin therapy should be prescribed in the absence of contraindications or documented adverse effects. (Grade: strong recommendation; high-quality evidence).

Hypertension

Recommendation 6: The organizations recommend that patients with stable IHD who have high blood pressure should be counseled regarding the need for lifestyle modifications, including maintenance of recommended weight; increased physical activity; moderation of alcohol consumption; limitation of dietary sodium; and emphasis on increased consumption of fresh fruits, vegetables, and low-fat dairy products (Grade: strong recommendation; moderate-quality evidence).

Recommendation 7: The organizations recommend that patients with stable IHD with blood pressure of 140/90 mm Hg or higher should be treated with antihypertensive drug therapy in addition to following a trial of lifestyle modifications (Grade: strong recommendation; high-quality evidence). The specific medications used for treatment of high blood pressure should be based on specific patient characteristics, and may include angiotensin-converting enzyme (ACE) inhibitors and/or β-blockers, with addition of other drugs, such as thiazide diuretics or calcium-channel blockers, if needed to achieve a goal blood pressure of less than 140/90 mm Hg (Grade: strong recommendation; moderate-quality evidence).

Diabetes

Recommendation 8: The organizations recommend that therapy with rosiglitazone should not be initiated in diabetic patients with stable IHD (Grade: strong recommendation; low-quality evidence).

Physical Activity

Recommendation 9: The organizations recommend risk assessment with a physical activity history to guide prognosis and prescription for all patients. An exercise test should be obtained when clinically indicated (Grade: strong recommendation; moderate-quality evidence). As indicated, based on this assessment, patients with stable IHD should be encouraged to engage in 30 to 60 minutes of moderate-intensity aerobic activity, such as brisk walking, at least 5 days and preferably 7 days of the week, supplemented by an increase in daily activities (such as walking breaks at work, gardening, or household work) to improve cardiorespiratory fitness and motivate patients of the least fit, least active high-risk cohort (bottom 20%) (Grade: strong recommendation; moderate-quality evidence). Medically supervised programs (cardiac rehabilitation) and physician-directed, home-based programs are recommended for at-risk patients at first diagnosis (Grade: strong recommendation; high-quality evidence).

Weight Management

Recommendation 10: The organizations recommend assessing body mass index and/or waist circumference at every visit and consistently encouraging weight maintenance/reduction through an appropriate balance of lifestyle physical activity, structured exercise, caloric intake, and formal behavioral programs when indicated to maintain/achieve a body mass index between 18.5 and 24.9 kg/m^2, and waist circumference less

than 40 inches in men and less than 35 inches in women (less for certain racial groups) (Grade: strong recommendation; moderate-quality evidence). The initial goal of weight loss therapy should be to reduce body weight by approximately 5% to 10% from baseline. With success, further weight loss can be attempted if indicated (Grade: strong recommendation; low-quality evidence).

Smoking Cessation

Recommendation 11: The organizations recommend that smoking cessation and avoidance of exposure to environmental tobacco smoke at work and at home should be encouraged for all patients with stable IHD. A stepwise strategy for smoking cessation (Ask, Advise, Assess, Assist, Arrange), follow-up, referral to special programs, and/or pharmacotherapy are recommended (Grade: strong recommendation; moderate-quality evidence).

Risk Factor Reduction Strategies of Unproven Benefits

Recommendation 12: The organizations recommend that estrogen therapy should not be initiated in postmenopausal women with stable IHD with the intent of reducing cardiovascular risk or improving clinical outcomes (Grade: strong recommendation; high-quality evidence).

Recommendation 13: The organizations recommend that vitamin C, vitamin E, and β-carotene supplementation should not be used with the intent of reducing cardiovascular risk or improving clinical outcomes in patients with stable IHD (Grade: strong recommendation; high-quality evidence).

Recommendation 14: The organizations recommend that treatment of elevated homocysteine with folate and/or vitamins B6 and B12 should not be used with the intent of reducing cardiovascular risk or improving clinical outcomes in patients with stable IHD (Grade: strong recommendation; high-quality evidence).

Recommendation 15: The organizations recommend that chelation therapy should not be used with the intent of improving symptoms or reducing cardiovascular risk in patients with stable IHD (Grade: strong recommendation; low-quality evidence).

Recommendation 16: The organizations recommend that treatment with garlic, coenzyme Q_{10}, selenium, or chromium should not be used with the intent of reducing cardiovascular risk or improving clinical outcomes in patients with stable IHD (Grade: strong recommendation; low-quality evidence).

Medical Therapy to Prevent MI and Death in Patients with Stable IHD

Recommendation 17: The organizations recommend that aspirin, 75 to 162 mg daily, should be continued indefinitely in the absence of contraindications in patients with stable IHD (Grade: strong recommendation; high-quality evidence).

Recommendation 18: The organizations recommend treatment with clopidogrel as a reasonable option when aspirin is contraindicated in patients with stable IHD (Grade: strong recommendation; moderate-quality evidence).

Recommendation 19: The organizations recommend that dipyridamole should not be used as antiplatelet therapy for patients with stable IHD (Grade: strong recommendation; low-quality evidence).

Recommendation 20: The organizations recommend that β-blocker therapy should be initiated and continued for 3 years in all patients with normal left ventricular (LV) function following myocardial infarction (MI) or acute coronary syndromes (Grade: strong recommendation; moderate-quality evidence).

Recommendation 21: The organizations recommend that metoprolol succinate, carvedilol, or bisoprolol should be used for all patients with systolic LV dysfunction (ejection fraction ≤40%) with heart failure or prior MI, unless contraindicated (Grade: strong recommendation; high-quality evidence).

Recommendation 22: The organizations recommend that ACE inhibitors should be prescribed in all patients with stable IHD who also have hypertension, diabetes, LV systolic dysfunction (ejection fraction ≤40%), and/or chronic kidney disease, unless contraindicated (Grade: strong recommendation; high-quality evidence).

Recommendation 23: The organizations recommend angiotensin-receptor blockers for patients with stable IHD who have hypertension, diabetes, LV systolic dysfunction, or chronic kidney disease and have indications for, but are intolerant of, ACE inhibitors (Grade: strong recommendation; high-quality evidence).

Recommendation 24: The organizations recommend an annual influenza vaccine for patients with stable IHD (Grade: strong recommendation; moderate-quality evidence).

Medical Therapy for Relief of Symptoms in Patients with Stable IHD

Recommendation 25: The organizations recommend that β-blockers should be prescribed as initial therapy for relief of symptoms in patients with stable IHD (Grade: strong recommendation; moderate-quality evidence).

Recommendation 26: The organizations recommend that calcium-channel blockers or long-acting nitrates should be prescribed for relief of symptoms when β-blockers are contraindicated or cause unacceptable side effects in patients with stable IHD (Grade: strong recommendation; moderate-quality evidence).

Recommendation 27: The organizations recommend that calcium-channel blockers or long-acting nitrates, in combination with β-blockers, should be prescribed for relief of symptoms when initial treatment with β-blockers is unsuccessful in patients with stable IHD (Grade: strong recommendation; moderate-quality evidence).

Recommendation 28: The organizations recommend that sublingual nitroglycerin or nitroglycerin spray should be used for immediate relief of angina in patients with stable IHD (Grade: strong recommendation; moderate-quality evidence).

Alternative Therapy for Relief of Symptoms in Patients with Stable IHD

Recommendation 29: The organizations recommend that acupuncture should not be used for the purpose of improving symptoms or reducing cardiovascular risk in stable IHD patients (Grade: strong recommendation; low-quality evidence).

Revascularization

Recommendation 30: The organizations recommend that a shared decision-making approach should be utilized when making decisions about revascularization in patients with unprotected left main or complex coronary artery disease and should include a cardiac surgeon, an interventional cardiologist, and the patient (Grade: strong recommendation; low-quality evidence).

Revascularization to Improve Survival

Recommendation 31: The organizations recommend coronary artery bypass graft to improve survival for patients with significant (≥50% diameter stenosis) left main coronary artery stenosis (Grade: strong recommendation; moderate-quality evidence).

Recommendation 32: The organizations recommend that percutaneous coronary intervention to improve survival should not be performed in stable patients with significant (≥50% diameter stenosis) unprotected left main coronary artery disease who have unfavorable anatomy for percutaneous coronary intervention and who are good candidates for coronary artery bypass graft (Grade: strong recommendation; moderate-quality evidence).

Recommendation 33: The organizations recommend the use of coronary artery bypass graft to improve survival in patients with significant (≥70% diameter) stenoses in 3 major coronary arteries (with or without involvement of the proximal left anterior descending artery) or in the proximal left anterior descending artery plus 1 other major coronary artery (Grade: strong recommendation; moderate-quality evidence).

Recommendation 34: The organizations recommend the use of coronary artery bypass graft or percutaneous coronary intervention to improve survival in survivors of sudden cardiac death with presumed ischemia-mediated ventricular tachycardia caused by significant (≥70% diameter) stenosis in a major coronary artery (Grade: strong recommendation; moderate-quality evidence for coronary artery bypass graft, low-quality evidence for percutaneous coronary intervention).

Recommendation 35: The organizations recommend that coronary artery bypass graft or percutaneous coronary intervention should not be performed with the primary or sole intent to improve survival in patients with stable IHD with 1 or more coronary stenoses that are not anatomically or functionally significant (for example, <70% diameter non–left main coronary artery stenosis, fractional flow reserve >0.80, no or only mild ischemia on noninvasive testing), involve only the left circumflex or right coronary artery, or subtend only a small area of viable myocardium (Grade: strong recommendation; moderate-quality evidence).

Revascularization to Improve Symptoms

Recommendation 36: The organizations recommend the use coronary artery bypass graft or percutaneous coronary intervention to improve symptoms in patients with 1 or more significant (≥70% diameter) coronary artery stenoses amenable to revascularization and unacceptable angina despite guideline-directed medical therapy (Grade: strong recommendation; high-quality evidence).

Recommendation 37: The organizations recommend that the use coronary artery bypass graft or percutaneous coronary intervention to improve symptoms should not be performed in patients who do not meet anatomical (≥50% diameter left main or ≥70% non–left main stenosis diameter) or physiologic (for example, abnormal fractional flow reserve) criteria for revascularization (Grade: strong recommendation; low-quality evidence).

Recommendation 38: The organizations recommend that percutaneous coronary intervention with coronary stenting (bare-metal stent or drug-eluting stent) should not be performed if the patient is not likely to be able to tolerate and comply with dual antiplatelet therapy for the appropriate

duration of treatment based on the type of stent implanted (Grade: strong recommendation; moderate-quality evidence).

Patient Follow-up

Recommendation 39: The organizations recommend that patients with stable IHD should receive periodic follow-up at least annually that includes all of the following (Grade: strong recommendation; low-quality evidence):

A. Assessment of symptoms and clinical function.
B. Surveillance for complications of stable IHD, including heart failure and arrhythmias.
C. Monitoring of cardiac risk factors.
D. Assessment of the adequacy of and adherence to recommended lifestyle changes and medical therapy.

Recommendation 40: The organizations recommend assessment of LV ejection fraction and segmental wall motion by echocardiography or radionuclide imaging in patients with new or worsening heart failure or evidence of intervening MI by history or electrocardiogram (Grade: strong recommendation; low-quality evidence).

Recommendation 41: The organizations recommend that measurement of LV function with a technology such as echocardiography or radionuclide imaging should not be used for routine periodic reassessment of patients who have not had a change in clinical status or who are at low risk of adverse cardiovascular events (Grade: strong recommendation; low-quality evidence).

Recommendation 42: The organizations recommend standard exercise electrocardiogram in patients with known stable IHD who have new or worsening symptoms not consistent with unstable angina and who have a) at least moderate physical functioning and no disabling comorbidity and b) an interpretable electrocardiogram (Grade: strong recommendation; moderate-quality evidence).

Recommendation 43: The organizations recommend exercise with radionuclide myocardial perfusion imaging or echocardiography in patients with known stable IHD who have new or worsening symptoms not consistent with unstable angina, and who have a) at least moderate physical functioning or no disabling comorbidity but b) an uninterpretable electrocardiogram (Grade: strong recommendation; moderate-quality evidence).

Recommendation 44: The organizations recommend that pharmacologic stress imaging with radionuclide myocardial perfusion imaging, echocardiography, or cardiac magnetic resonance should not be used in patients with known stable IHD who have new or worsening symptoms not consistent with unstable angina and who are capable of at least moderate physical functioning or have no disabling comorbidity (Grade: strong recommendation; low-quality evidence).

Recommendation 45: The organizations recommend pharmacologic stress imaging using radionuclide myocardial perfusion or echocardiography in patients with known stable IHD who have new or worsening symptoms not consistent with unstable angina and who are incapable of at least moderate physical functioning or have disabling comorbidity (Grade: strong recommendation; moderate-quality evidence).

Recommendation 46: The organizations recommend that standard exercise electrocardiogram testing should not be performed in patients with known stable IHD who have new or worsening symptoms not consistent with unstable angina and who a) are incapable of at least moderate physical functioning or have disabling comorbidity or b) have an uninterpretable electrocardiogram (Grade: strong recommendation; low-quality evidence).

Recommendation 47: The organizations recommend that coronary/cardiac computed tomography angiography should not be performed for assessment of native coronary arteries with known moderate or severe calcification or of coronary stents less than 3 mm in diameter in patients with known stable IHD who have new or worsening symptoms not consistent with unstable angina, irrespective of ability to exercise (Grade: strong recommendation; moderate-quality evidence).

Recommendation 48: The organizations recommend that radionuclide myocardial perfusion imaging, echocardiography, or cardiac magnetic resonance, with either exercise or pharmacologic stress or coronary/cardiac computed tomography angiography, should not be used for follow-up assessment in patients with stable IHD, if performed more frequently than at a) 5-year intervals after coronary artery bypass graft or b) 2-year intervals after percutaneous coronary intervention (Grade: strong recommendation; low-quality evidence).

Definitions:

The American College of Physicians' Guideline Grading System*		
Quality of Evidence	Strength of Recommendation	
	Benefits Clearly Outweigh Risks and Burden or Risks and Burden Clearly Outweigh Benefits	Benefits Finely Balanced with Risks and Burden
High	Strong	Weak
Moderate	Strong	Weak
Low	Strong	Weak
Insufficient evidence to determine net benefits or risks		

*Adopted from the classification developed by the GRADE (Grading of Recommendations Assessment, Development, and Evaluation) workgroup.

Clinical Algorithm(s)

The following clinical algorithms are provided in the original guideline document:

- Guideline-directed medical therapy for patients with stable ischemic heart disease
- Revascularization to improve survival of patients with stable ischemic heart disease
- Revascularization to improve symptoms of patients with stable ischemic heart disease

Scope

Disease/Condition(s)

Stable ischemic heart disease

Guideline Category

Counseling

Evaluation

Management

Prevention

Treatment

Clinical Specialty

Cardiology

Family Practice

Internal Medicine

Nursing

Nutrition

Radiology

Thoracic Surgery

Intended Users

Advanced Practice Nurses

Dietitians

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To synthesize the evidence for the following key questions:

- What should be the approach to modifying cardiovascular risk factors to reduce the mortality and morbidity associated with stable ischemic heart disease (IHD)?
- What is the role of coronary revascularization in reducing mortality and morbidity associated with stable IHD?
- How should chronic anginal symptoms be managed with medications?

Target Population

All adult patients with stable known or suspected ischemic heart disease

Interventions and Practices Considered

1. Patient education on cardiovascular risk reduction strategies, medication adherence, self-monitoring skills, and lifestyle elements than affect prognosis
2. Risk factor modification
    - Lipid management (lifestyle modification, dietary therapy, statin therapy)
    - Hypertension management (lifestyle modification, antihypertensive drug therapy including angiotensin-converting enzyme [ACE] inhibitors and/or β-blockers, thiazide diuretics, calcium-channel blockers)
    - Diabetes management (avoiding rosiglitazone)
    - Physical activity prescription
    - Weight management
    - Smoking cessation
    - Risk reduction strategies that are not recommended (estrogen therapy; vitamins C, E, B6 and B12; β-carotene; folate; chelation therapy; garlic; coenzyme Q10; selenium; chromium)
3. Medical therapy to prevent myocardial infarction and death
    - Aspirin or clopidogrel
    - Dipyridamole (not recommended as antiplatelet therapy)
    - β-blocker therapy (metoprolol succinate, carvedilol, or bisoprolol)
    - Angiotensin-converting enzyme (ACE) inhibitors
    - Angiotensin receptor blockers
    - Annual influenza vaccine
4. Medical therapy for relief of symptoms
    - β-blockers
    - Calcium-channel blockers or long-acting nitrates
    - Calcium-channel blockers or long-acting nitrates, in combination with β-blockers

    - Sublingual nitroglycerin or nitroglycerin spray
5. Acupuncture (not recommended)
6. Revascularization (coronary artery bypass, percutaneous coronary intervention)
7. Patient follow-up
    - Assessment of symptoms and clinical function
    - Surveillance for complications of stable ischemic heart disease, including heart failure and arrhythmias
    - Monitoring of cardiac risk factors
    - Assessment of the adequacy of and adherence to recommended lifestyle changes and medical therapy
    - Follow-up stress testing

Major Outcomes Considered

- Mortality
- Morbidity
- Hospitalizations
- Invasive procedures
- Emergency department visits
- Long-term care
- Premature death and complications of stable ischemic heart disease, including nonfatal acute myocardial infarction and heart failure
- Quality of life

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The databases used for the literature search included MEDLINE, Embase, Cochrane CENTRAL, PsychINFO, AMED, and SCOPUS for studies published up until November 2011. The criteria for search included human participants and English-language articles. For more details on the methods, please refer to the American College of Cardiology Foundation (ACCF), American Heart Association (AHA), American College of Physicians (ACP), American Association for Thoracic Surgery (AATS), Preventive Cardiovascular Nurses Association (PCNA), Society for Cardiovascular Angiography and Interventions (SCAI), and Society of Thoracic Surgeons (STS) guideline for the diagnosis and management of patients with stable ischemic heart disease (see the "Adaptations" field).

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

This guideline grades the evidence and recommendations according to a translation of the American College of Cardiology Foundation (ACCF)/American Heart Association (AHA) grading system into the American College of Physicians' (ACP's) clinical practice guidelines grading system. See the "Rating Scheme for the Strength of the Recommendations" field.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

American College of Physicians (ACP) guideline recommendations are based on evidence from systematic reviews of high-quality evidence (several well-designed randomized, controlled trials) and meta-analyses where appropriate. Because these guidelines are based on the joint guideline, the ACP translated the American College of Cardiology Foundation (ACCF)/American Heart Association (AHA) evidence and recommendation grades into ACP's guideline grading system (see the "Rating Scheme for the Strength of the Recommendations" field and Table 2 in the original guideline document). The authors included only class I and class III statements from the joint guideline because the evidence for these statements very clearly demonstrates the benefits outweigh harms or vice versa (see Table 2 in the original guideline document). For details on other recommendations, refer to the American College of Cardiology Foundation, American Heart Association, American College of Physicians, American Association for Thoracic Surgery, Preventive Cardiovascular Nurses Association, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons guideline for the diagnosis and management of patients with stable ischemic heart disease (see the "Adaptation" field).

Rating Scheme for the Strength of the Recommendations

The American College of Physicians' Guideline Grading System*		
Quality of Evidence	Strength of Recommendation	
	Benefits Clearly Outweigh Risks and Burden or Risks and Burden Clearly Outweigh Benefits	Benefits Finely Balanced with Risks and Burden
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Low	Strong	Weak
Insufficient evidence to determine net benefits or risks		

*Adopted from the classification developed by the GRADE (Grading of Recommendations Assessment, Development, and Evaluation) workgroup.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

These guidelines were approved by the American College of Physicians Board of Regents on April 16, 2012.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Prevention of premature cardiovascular death and complications of stable ischemic heart disease (IHD), including nonfatal acute myocardial infarction and heart failure
- Maintaining or restoring a quality of life that is satisfactory to the patient while eliminating avoidable adverse effects of tests and treatments, preventing hospital admissions, and eliminating unnecessary tests and treatments

Potential Harms

- Caution with regard to overly aggressive lowering of blood pressure in patients with stable ischemic heart disease (IHD) is warranted because excessive reduction in diastolic pressure has not conclusively been shown to improve outcomes and has been associated with an increase in mortality, potentially related to reduced coronary perfusion.
- In regard to medications used for smoking cessation, there have been concerns about possible worsening of pre-existing depression and the risk for suicide due to varenicline. The Food and Drug Administration has issued an alert warning that serious neuropsychiatric symptoms may occur in patients taking this drug.
- β-blockers should be used with caution in patients with type 1 diabetes. The adverse event profile of β-blockers may limit their use. Abrupt β-blocker withdrawal should be avoided, and the dose should be tapered during a 1- to 3-week period because of heightened β-receptor density and sensitivity causing a rebound phenomenon associated with an increased risk for acute myocardial infarction and sudden death.
- Overall, calcium-channel blockers are well-tolerated and adverse effects are generally related to systemic hypotension. Calcium-channel blockers should be used with caution in patients who are taking cyclosporine, carbamazepine, lithium carbonate, amiodarone, or digoxin because of potential drug interactions.
- The most common side effects of nitrates are headache, flushing, and hypotension. All short-acting nitrate preparations may result in hypotension, sometimes severe, and headaches that limit continued patient adherence with these agents.
- The major adverse effects of ranolazine are constipation, nausea, dizziness, and headache. The incidence of syncope is less than 1%.
- The outcomes of revascularization appear to be less favorable among women than men, as the odds of in-hospital mortality after percutaneous coronary intervention have ranged from 25% to 80% higher for women compared with men.
- The higher prevalence of stable IHD disease in older adults leads to more false-negative test results.

Contraindications

Contraindications

- Aspirin is relatively contraindicated in patients with known allergies to nonsteroidal anti-inflammatory drugs and in patients with the syndrome of asthma, rhinitis, and nasal polyps.

- β-blockers are associated with certain contraindications that should be kept in mind when treating a patient with stable ischemic heart disease (IHD). Absolute contraindications to β-blockers include severe bradycardia, pre-existing high degree of atrioventricular block, sick sinus syndrome, and refractory heart failure. Relative contraindications include bronchospastic disease or active peripheral arterial disease (β-blockers without vasodilating properties or selective agents at low doses may be used).
- Ranolazine is contraindicated in combination with potent inhibitors of the CYP3A4 pathway, including ketoconazole (3.2-fold increase in ranolazine plasma levels) and other azole antifungal agents, macrolide antibiotics, human immunodeficiency virus (HIV) protease inhibitors, grapefruit products or juice, and diltiazem.

Qualifying Statements

Qualifying Statements

- Clinical practice guidelines are "guides" only and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinicians' judgment. All American College of Physicians' clinical practice guidelines are considered automatically withdrawn or invalid 5 years after publication or once an update has been issued.
- The authors of this guideline are responsible for its contents, including any clinical or treatment recommendations.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Clinical Algorithm

Mobile Device Resources

Patient Resources

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Qaseem A, Fihn SD, Dallas P, Williams S, Owens DK, Shekelle P, Clinical Guidelines Committee of the American College of Physicians. Management of stable ischemic heart disease: summary of a clinical practice guideline from the American College of Physicians/American College of Cardiology Foundation/American Heart Association/American Association for Thoracic Surgery [trunc]. Ann Intern Med. 2012 Nov 20;157(10):735-743. [333 references] PubMed

Adaptation

These recommendations are based on the following guideline: Fihn SD, Gardin JM, Abrams J, Berra K, Blankenship JC, Dallas P, et al. 2012 ACCF/AHA/ACP/AATS/PCNA/SCAI/STS guideline for the diagnosis and management of patients with stable ischemic heart disease: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines, and the American College of Physicians, American Association for Thoracic Surgery, Preventive Cardiovascular Nurses Association, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons. J Am Coll Cardiol. 2012.

Date Released

2012 Nov 20

Guideline Developer(s)

American College of Physicians - Medical Specialty Society

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American College of Physicians

Guideline Committee

Clinical Guidelines Committee of the American College of Physicians

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Financial Disclosures/Conflicts of Interest

Any financial and nonfinancial conflicts of interest of the group members were declared, discussed, and resolved according to the American College of Physicians' conflicts of interest policy. A record of conflicts of interest is kept for each Clinical Guidelines Committee meeting and conference call and can be viewed at http://www.acponline.org/clinical_information/guidelines/guidelines/conflicts_cgc.htm . Author and peer reviewer disclosure information for the multisocietal stable IHD guideline, on which these guidelines are

based, may be found in the published multisocietal document. Disclosures can also be viewed at www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M12-1769.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the Annals of Internal Medicine Web site.

Print copies: Available from the American College of Physicians (ACP), 190 N. Independence Mall West, Philadelphia PA 19106-1572.

Availability of Companion Documents

The following are available:

- Qaseem A, Fihn SD, Williams S, Dallas P, Owens DK, Shekelle P, for the Clinical Guidelines Committee of the American College of Physicians. Diagnosis of stable ischemic heart disease: recommendations from the American College of Physicians, American College of Cardiology Foundation, American Heart Association, American Association for Thoracic Surgery, Preventive Cardiovascular Nurses Association, and Society of Thoracic Surgeons. Ann Intern Med. 2012;157(10):I-42. Available from the Annals of Internal Medicine Web site.
- Qaseem A, Snow V, Owens DK, Shekelle P. The development of clinical practice guidelines and guidance statements of the American College of Physicians: summary of methods. Ann Intern Med. 2010 Aug 3;153(3):194-199. Electronic copies: Available from the Annals of Internal Medicine Web site.

Print copies: Available from the American College of Physicians (ACP), 190 N. Independence Mall West, Philadelphia PA 19106-1572.

A collection of Recommendation Summaries for all current American College of Physicians Clinical Guidelines is now available for Personal Digital Assistant (PDA) download from the American College of Physicians Web site.

Patient Resources

The following is available:

- Summaries for patients. Management of stable ischemic heart disease: recommendations from the American College of Physicians, American College of Cardiology Foundation, American Heart Association, American Association for Thoracic Surgery, Preventive Cardiovascular Nurses Association, and Society of Thoracic Surgeons. Ann Intern Med. 2012;157(10):I-48. Available at the Annals of Internal Medicine Web site.

Print copies: Available from the American College of Physicians (ACP), 190 N. Independence Mall West, Philadelphia PA 19106-1572.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on February 1, 2012. This summary was updated by ECRI Institute on April 8, 2015

following the U.S. Food and Drug Administration advisory on Chantix (varenicline).

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